AMENDMENT

In the Claims:

Please cancel without prejudice claims 1, 3, 11-14, and 31-34.

Please amend claims 4, 15, 16, 20, 35, 36, and 40, as indicated below.

The current version of the claims follows:

1-3. (Canceled)

4. (Currently amended) A calibration circuitry, comprising:

an adjustable capacitor, the adjustable capacitor having a capacitance that varies in response to a plurality of control signals;

a voltage generator, the voltage generator configured to provide a measurement voltage that depends on the capacitance of the adjustable capacitor;

a reference voltage generator, the reference voltage generator configured to provide a reference voltage; and

a controller, the controller configured to provide the plurality of control signals based on the relative values of the reference voltage and the measurement voltage~~The calibration circuitry according to claim 3~~, wherein the adjustable capacitor is calibrated by holding the plurality of control signals constant after powering up the calibration circuitry.

5. (Previously presented) The calibration circuitry according to claim 4, wherein the adjustable capacitor is charged in response to a first clock signal.

6. (Previously presented) The calibration circuitry according to claim 5, wherein the adjustable capacitor is discharged in response to a second clock signal.

7. (Previously presented) The calibration circuitry according to claim 6, wherein the first and second clock signals are non-overlapping.

8. (Previously presented) The calibration circuitry according to claim 7, wherein the controller comprises a logic circuitry.

9. (Previously presented) The calibration circuitry according to claim 8, wherein the logic circuitry comprises a finite-state machine configured to provide the plurality of control signals.

10. (Previously presented) The calibration circuitry according to claim 9, wherein the finite-state machine uses successive approximation to provide the plurality of control signals.

11-14. (Canceled)

15. (Currently amended) A radio-frequency (RF) apparatus, comprising:

a first integrated circuit, including:

an adjustable capacitor having a capacitance value adapted to be adjustable in response to a plurality of control signals;

a voltage generator configured to generate a measurement voltage that depends in part on the capacitance value of the adjustable capacitor; and

a controller configured to receive the measurement voltage and a reference voltage, the controller further configured to provide the plurality of control signals based on the relative values of the measurement voltage and the reference voltage~~The radio-frequency apparatus according to claim 14~~, wherein the adjustable capacitor is calibrated by holding the plurality of control signals constant.

16. (Currently amended) The radio-frequency apparatus according to claim 15, wherein the first integrated circuit further comprises radio-frequency receiver circuitry coupled to ~~the~~ an analog-to-digital converter circuitry.

17. (Previously presented) The radio-frequency apparatus according to claim 16, wherein the adjustable capacitor is calibrated after powering up the first integrated circuit.

18. (Previously presented) The radio-frequency apparatus according to claim 17, wherein the adjustable capacitor is calibrated before a reception of a burst by the radio-frequency receiver circuitry.

19. (Previously presented) The radio-frequency apparatus according to claim 18, further comprising a second integrated circuit coupled to the first integrated circuit, the second integrated circuit comprising digital signal processing circuitry configured to accept a digital output signal of the analog-to-digital converter circuitry.

20. (Currently amended) The radio-frequency apparatus according to claim 15, wherein the adjustable capacitor comprises a plurality of switchable capacitors configured to adjust the capacitance value of the adjustable capacitor in response to the plurality of control signals, and wherein the plurality of switchable capacitors are coupled in parallel with one another.

21. (Previously presented) The radio-frequency apparatus according to claim 20, wherein each switchable capacitor in the plurality of switchable capacitors comprises a capacitor coupled to a switch.

22. (Previously presented) The radio-frequency apparatus according to claim 21, wherein each switch in the plurality of switchable capacitors responds to a respective signal in the plurality of control signals.

23. (Previously presented) The radio-frequency apparatus according to claim 22, wherein the adjustable capacitor is charged in response to a first clock signal and discharged in response to a second clock signal, and wherein the first and second clock signals are non-overlapping.

24. (Previously presented) The radio-frequency apparatus according to claim 23, wherein the adjustable capacitor further comprises a fixed capacitor coupled in parallel with the plurality of switchable capacitors.

25. (Previously presented) The radio-frequency apparatus according to claim 24, wherein the controller comprises a finite-state machine configured to generate the plurality of control signals.

26. (Previously presented) The radio-frequency apparatus according to claim 25, wherein the finite-state machine uses successive approximation to generate the plurality of control signals.

27. (Previously presented) The radio-frequency apparatus according to claim 15, wherein the first integrated circuit further comprises radio-frequency receiver circuitry coupled to the analog-to-digital converter circuitry, the radio-frequency receiver circuitry comprising a cascade coupling of a low-noise amplifier and a mixer.

28. (Previously presented) The radio-frequency apparatus according to claim 27, wherein the adjustable capacitor is calibrated after powering up the radio-frequency circuitry within the first integrated circuit.

29. (Previously presented) The radio-frequency apparatus according to claim 28, wherein the adjustable capacitor is calibrated before a reception of a burst by the radio-frequency receiver circuitry.

30. (Previously presented) The radio-frequency apparatus according to claim 29, further comprising a second integrated circuit coupled to the first integrated circuit, the second integrated circuit comprising digital signal processing circuitry configured to accept a digital output signal of the analog-to-digital converter circuitry.

31-34. (Canceled)

35. (Currently amended) A method of calibrating circuitry within a first integrated circuit, comprising:

adjusting a capacitance value of an adjustable capacitor included within the first integrated circuit, the capacitance value of the adjustable capacitor configured to be adjustable in response to a plurality of control signals;

generating a measurement voltage, a voltage value of the measurement voltage being dependent in part on the capacitance value of the adjustable capacitor;

supplying to the adjustable capacitor the plurality of control signals generated by a controller, the controller configured to receive the measurement voltage and a reference voltage and to provide the plurality of control signals based on the relative values of the measurement voltage and the reference voltage~~The method according to claim 34, further comprising~~; and

calibrating the adjustable capacitor by holding constant the plurality of control signals.

36. (Currently amended) The method according to claim 35, wherein adjusting the capacitance value of the adjustable capacitor comprises using a plurality of switchable capacitors configured to adjust the capacitance value of the adjustable capacitor in response to the plurality of control signals; and wherein the plurality of switchable capacitors are coupled in parallel with one another, and wherein each switchable capacitor in the plurality of switchable capacitors comprises a capacitor coupled to a switch, and wherein each switch is configured to respond to a respective signal in the plurality of control signals.

37. (Previously presented) The method according to claim 36, wherein generating the measurement voltage further comprises:

charging the adjustable capacitor in response to a first clock signal; and

discharging the adjustable capacitor in response to a second clock signal,

wherein the first and second clock signals are non-overlapping.

38. (Previously presented) The method according to claim 37, wherein the adjustable capacitor further comprises a fixed capacitor coupled in parallel with the plurality of switchable capacitors.

39. (Previously presented) The method according to claim 38, further comprising providing within the controller a finite-state machine configured to generate the plurality of control signals by using successive approximation.

40. (Currently amended) The method according to claim 39, further comprising receiving radio-frequency signals by using a radio-frequency receiver circuitry, the radio-frequency circuitry included in the first integrated circuit and coupled to ~~the~~ an analog-to-digital converter circuitry.

41. (Previously presented) The method according to claim 40, further comprising calibrating the adjustable capacitor after powering up the first integrated circuit.

42. (Previously presented) The method according to claim 41, further comprising calibrating the adjustable capacitor before a reception of a burst by the radio-frequency receiver circuitry.

43. (Previously presented) The method according to claim 42, further comprising providing a second integrated circuit coupled to the first integrated circuit, the second integrated circuit comprising digital signal processing circuitry configured to accept a digital output signal of the analog-to-digital converter circuitry.